Upper Mississippi River National Wildlife Refuge Complex
Comprehensive Conservation Plan

Issue Fact Sheet

The Issue: Water Level Management of Navigation Pools (Drawdowns)

Background: The Federal Government began navigation "improvements" on the Upper Mississippi river as early as the 1820's. Throughout the remainder of the 1800's and early 1900's, Congress authorized the US Army Corps of Engineers to construct and operate a series of commercial navigation improvement projects to define and deepen a commercial navigation channel. Construction methods through the 1800s included, dredging, clearing and snagging, wing dams and closing structures. Completion of the current 9-foot navigation project (1938-1942) using a series of low head dams had the greatest ecological influence on the Upper Mississippi. This system of 26 locks and dams changed the previously free flowing river to a series of shallow reservoirs (called navigation pools) from St. Louis, Missouri to Minneapolis, Minnesota.

For several decades, the newly created "pools" of the Upper Mississippi River supported a wealth of fish, wildlife and aquatic habitats. However, typical of dammed river systems, the initial productivity of the pools significantly diminished. Although water level management of the pools changed somewhat over the years, the defining purpose for water level management was, and is, to ensure navigation pool water depths for a defined commercial navigation channel. The result is a deeper, relatively stabilized water system, especially during the summer. Changing the free flowing river to a series of reservoirs, and stabilization of water levels, over time, adversely affected the biological resources of Upper Mississippi River. Among the principal results of the higher, stable water regime are, a reduction of seasonal mudflat/sandbar areas, and a significant adverse effect on plant communities, including those which require a wet/dry soil cycle typical of natural river systems. Plants and animals dependent on this cycle have decreased or disappeared on much of the Upper Mississippi River. These plant communities provide critical food and shelter for many fish and wildlife populations.

Main Concerns:

1. Deeper, relatively stable water levels resulting from construction and operation of the 9-foot navigation project have significantly reduced the amount and quality of many plant communities and other habitats. This habitat loss has adversely affected fish and wildlife and has reduced overall productivity of the Mississippi River.

2. Lower pool water levels during the commercial navigation season may affect commercial users of the navigation system, and/or increase the amount of dredging at some locations to ensure unimpeded commercial navigation.

3. Recreational boaters and other river users are accustomed to River access and use under stabilized water level conditions.

4. Some citizens and biologists are concerned about possible adverse effects of periodic water drawdowns on fish.